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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,355	12/09/2003	Jose Arno	ATMI 567-Div-Con-3	3545

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ATMI, INC.
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EXAMINER	
STEVENSON, ANDRE C	
ART UNIT	**PAPER NUMBER**
2812	

DATE MAILED: 02/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/731,355	ARNO, JOSE	
	Examiner	Art Unit	
	Andre' C. Stevenson	2812	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 January 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5* is/are rejected.

7)☒ Claim(s) *6-10* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *01/20/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Detailed Action

Information Disclosure Statement

The information disclosure statement (IDS) submitted on January 20, 2006 was filed after the mailing date the first action on the merits, but before the close of prosecution. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims #1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sorensen et al. (U.S. Pat. No. 5,782,974 B2, Pat. Date 07/21/98, File 05/16/96), in view of Tanaka (U.S. Pat. No. 5,594,248, Pat. Date 01/14/97, File 03/12/96).

Sorensen substantially shows, in figures 1-3 and corresponding text, in a similar method for measuring temperatures, with respect to **claim #1**, a semiconductor process system adapted for processing of or with a material therein, said system comprising; a sampling region for the material **(column #3, line 34-51)**; an infrared radiation source constructed and arranged to transmit infrared radiation through the sampling region **(item #26) (column #4, line 46-67)**; a thermopile detector **(item #18)** constructed and arranged to receive infrared radiation after the

transmission thereof through the sampling region and to responsively generate an output signal correlative of said material **(column #5, line 46-67; column #6, line 1-5; column #7, line 1-12)**; and process control means **(item #19)** arranged to receive the output of the thermopile detector and to responsively control one or more process conditions in and/or affecting the semiconductor process system **(column #4, line 40-45; column #7, line 13-21).** ***Pertaining to claim #2,*** Won shows a method wherein the material comprises a solid **(item #10) (column #4, line 13-33).** ***Pertaining to claim #3,*** Sorensen shows a method wherein the material comprises a fluid **(column #8, line 8-24).** ***Pertaining to claim #4,*** Sorensen shows a method wherein the material comprises a liquid **(column #8, line 8-24).** The Examiner notes that Sorensen does not mention explicitly that the material, stated in claims #3 and 4, comprise of a fluid or a liquid. However, the Examiner notes that Sorensen shows, in column 4 lines 21-33, that molecular gases are excited in the plasma region (16) and subsequently these gases, or portions of the gases, deposit on the surface of the deposition substrate (10), to form thin film layers on the substrate. Sorensen also shows that the susceptor is maintained at an appropriate temperature for deposition to occur. Thus, the deposition gases, as the substrate decreases in temperature, go through a triple point phase;

1) Gas; actual deployment of the material.

2) Liquid; as the gases attach to the substrate.

3) Solid; as the substrate cools and the deposited material becomes a solid.

The Examiner takes the position that through this process, the susceptor, which is monitored and controlled by the thermopile detector and the computer, operates on a material that is a gas, a liquid, and then a solid. For this reason, the Examiner takes the position that the

claimed invention, as it is now written, is taught by Sorensen. ***Pertaining to claim #5,*** Sorensen shows a method wherein the material comprises a gas **(column #8, line 8-24).**

Sorensen fails to show, with respect to claim #1, the transmission of the infrared beam through the sampling region.

Tanaka teaches, in a similar method involving an infrared imaging device that has a plurality of detectors, with respect to claim #1, the transmission of the infrared beam through the sampling region **(column #5, line 53-67; column #6, line 1-29).**

It would have been obvious to one having ordinary skill in the art at the time the invention was made, with respect to **claim #1**, to include the step having a transmission of a infrared beam through a sampling region, into the method of Sorensen, as taught by Tanaka, with the motivation that having the infrared imaging system, when used to recognizes a defective pixel detection mode in response to a predetermined signal supplied from an external source, produces a normal image signal that is free of defective image data from defective pixels

Allowable Subject Matter

Claims #6 through 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim #6, upon further updated search.

- ✓ Radiation source comprises an infrared radiation lamp.

Claim #7, upon further updated search.

- ✓ Infrared radiation lamp generates said infrared radiation in a wavelength in the range of from about 2 to about 4.6 μm.

Claim #8, upon further updated search.

- ✓ Radiation source further comprises mirrors adapted to focus said infrared radiation beam.

Claim #9, upon further updated search.

- ✓ Mirrors are adapted to multipass said infrared radiation beam.

Claim #10, upon further updated search.

- ✓ Infrared radiation lamp generates said infrared radiation in a wavelength in the range of from about 2 to about 4.6 μm.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure; Tanaka (U.S. Pat. No. 5,594,248), Keenan (U.S. Pat. No. 5,367,167), Pompei et al. (U.S. Pat. No. 6,045,257), Chavan et al. (U.S. Pat. No. 6,828,172 B2), Sato et al. (U.S. Pub. No. 2003/0111605), Chavan et al. (U.S. Pub. No. 2003/0148620 A1), Mori et al. (U.S. Pat. No. 5,404,125), Irani et al. (U.S. Pat. No. 4,527,896).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andre' Stevenson whose telephone number is (571) 272 1683. The examiner can normally be reached on Monday through Friday from 7:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael S. Lebentritt, can be reached on (571) 272 1873. The fax phone number for the organization where this application or proceeding is assigned is (703) 308 7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 0956. Also, the proceeding numbers can be used to fax information through the Right Fax system;

(703) 872-9306

Andre' Stevenson

02/14/06

MICHAEL LEBENTRITT
SUPERVISORY PATENT EXAMINER